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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF THE SECRETARY

ET Docket No. 98-10  
RM-9417  
RM-9245

**COMMENTS OF PETROLEUM COMMUNICATIONS, INC.**

1. PetroCom operates a very small aperture terminal ("VSAT") system in the Ku-band in the Gulf of Mexico ("Gulf") that provides fixed service to primarily companies involved in drilling, exploration, transportation and production. PetroCom will be directly affected by the Commission's decision on allowing non-geostationary satellite orbit ("NGSO") fixed-satellite service ("FSS") operations to share certain segments of the Ku-band.

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I. Potential Interference: Too Many Unknowns

2. The Commission states that NGSO satellites transmitting signals earthward *may* cause interference to terrestrial fixed receivers.<sup>2</sup> While SkyBridge argues that such interference can be controlled by meeting long term power flux-density ("pfd") limits adopted at WRC-97, the Telecommunications Industry Association ("TIA") correctly points out that the WRC-97 pfd limits intended to protect fixed receivers from satellite downlink transmissions could not be verified at recent ITU-R meetings and therefore SkyBridge has no basis to state that the proposed NGSO operations would have no effect on fixed links.<sup>3</sup> Even WRC-97 recognizes that further studies are required to determine if applicable pfd limits for non-GSO FSS systems are adequate to protect terrestrial services in these bands. In addition, NGSO FSS systems *may* cause interference to GSO and Telemetry, Tracking and Command Links ("TT&C") during transfer orbit operations.<sup>4</sup> Satellite or launch malfunctions *may* severely impair communications from ground control stations and GSO satellites.<sup>5</sup> In addition, there are concerns about the "cumulative effect of multiple NGSO FSS systems on the viability of sharing with other services."<sup>6</sup>

3. The President's Commission on Critical Infrastructure Protection ("PCCIP") has recognized the need to protect the nation's critical infrastructure, including electric power systems, water supply systems, oil and gas transportation and storage systems and transportation. As the

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<sup>2</sup> *NPRM* at ¶ 18.

<sup>3</sup> *Id.* at ¶ 19.

<sup>4</sup> *Id.* at ¶ 29.

<sup>5</sup> *Id.* at ¶ 31.

<sup>6</sup> *Id.* at ¶ 72-74.

PCCIP noted: "Our security, economy, way of life, and perhaps even survival, are now dependent on the interrelated trio of electrical energy, communications, and computers." With vital communications to energy companies operating in the Gulf at stake, the Commission should delay spectrum sharing for NGSO FSS systems in the Ku-band, especially in the Gulf, until adequate protection criteria for terrestrial and GSO FSS systems are determined.

## II. The Gulf Of Mexico Should Be Designated As An Exclusion Area For Siting Gateway Earth Stations

4. If the Commission does proceed with licensing NGSO FSS systems in the Ku-band, then the Gulf should be designated as an exclusion area for siting gateway earth stations. In the *NPRM*, the Commission proposed to establish exclusion areas around the 50 most populated cities.<sup>7</sup> The exclusion areas would consist of a 100 km radius around the city center where gateway earth stations could not be located. The purpose of these exclusion areas is to maintain the opportunity for relocation and growth of fixed operations from the 2 GHz frequency band to the 10.7-11.7 GHz band.<sup>8</sup> The Commission also requested comments on whether other non-urban areas should be designated as exclusion areas "where, for example, numerous fixed links exist and where it may be difficult to coordinate additional links under existing topographical conditions (e.g., several western states have numerous fixed links to convey information in mountainous regions where it may be difficult to run fiber optic cables.)"<sup>9</sup>

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<sup>7</sup> *NPRM* at ¶¶ 23-25.

<sup>8</sup> *Id.* at ¶ 23.

<sup>9</sup> *Id.* at ¶ 24.

5. The entire Gulf should be designated as an exclusion area for siting gateway earth stations. The Gulf is a unique area exceeding 86,000 square miles and covered by water. The Gulf's population consists of primarily two classes: (1) energy companies involved in exploration drilling, construction, production, pipelines and so forth; and (2) non-energy related users involved in various marine activities by fishing boats, government agencies and shipping or pleasure traffic. Due to the unique topography of the Gulf, wireline communications are either not feasible or not cost efficient. Telecommunications users and operators are thus almost exclusively dependent on fixed and mobile wireless systems. Fixed wireless facilities also have a limited number of locations available for siting due to the dependence on oil and gas platforms that are prone to relocation.<sup>10</sup>

6. There are numerous fixed links in the Gulf due to the unique topography of the area. The Commission has designated the Gulf as a private microwave congested area due to the vast number of licensed links, many of which may be subject to relocation.<sup>11</sup> The Gulf should therefore be designated as an exclusion area for the siting of gateway earth stations. This will protect the opportunity for relocation of fixed operations from the 2 GHz frequency band to the 10.7-11.7 GHz band.

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<sup>10</sup> *Petroleum Comm., Inc. v. FCC*, 22 F.3d 1164, 1168 (D.C. Cir. 1994).

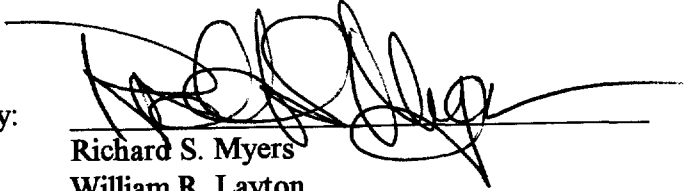
<sup>11</sup> Public Notice, "Private Microwave Congested Areas" (rel. June 22, 1983).

7. For reasons stated above, the Commission should not authorize NGSO FSS operations on a co-primary basis with GSO FSS operations in the Ku-band.

Respectfully submitted,

PETROLEUM COMMUNICATIONS, INC.

By:



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## CERTIFICATE OF SERVICE

I, Katrina Blackwell, an employee of Myers Keller Communications Law Group, hereby certify that on this 2nd day of March, 1999, I caused to be hand delivered a copy of the forgoing COMMENTS OF PETROLEUM COMMUNICATIONS, INC. to the following:

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